

Two Parachutes

This post-trip lesson to extend the learning experience into the classroom after their field trip to the Discovery.

Standards:

K-2-ETS1-3 -- Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.

Engagement:

Remind students of their zipline engineering challenge at The Discovery. Review what they learned from testing and redesigning their ziplines. Another way that engineers examine different designs is to make two objects designed to solve the same problem and compare the strengths and weaknesses of each. Doing this makes it quicker to make choices about how to improve the design of the object. Today you and a partner are going to be challenged to create the slowest parachute. You will do this by designing two parachutes, testing them and comparing their strengths and weaknesses.

Exploration:

- Ask the students how will we test our parachute? Record ideas and decide on a method. *Things to consider:* same height, same load weight, time from start to when the weight hits the floor.
- Show students the materials they will have to build with and discuss the properties of the materials.

• Remind students that the parachutes must be round and have four suspension lines. They may choose the canopy size, material and suspension line length for their parachute design.

- Have students individually draw out their ideas (plan step)
- Test parachutes. Compare designs. Have each pair select the slowest parachute and complete the sentence? Parachute ___A/B___ was slower because _____.

Explanation:

- Gather the class together to review results. What did we learn?
- How could we collect evidence to support your statements?

What You Will Need:

- Coffee filters
- Paper
- String/floss
- Paperclips (or small weights)
- Optional: Various other craft materials for students to experiment with
- Extension: Plastic bags, medium sized scraps of various fabric
- Tape
- Scissors



Extension:

Offer students new materials such as plastic grocery bags or small pieces of fabric and ask them to come up with new designs to test given access to these new materials.

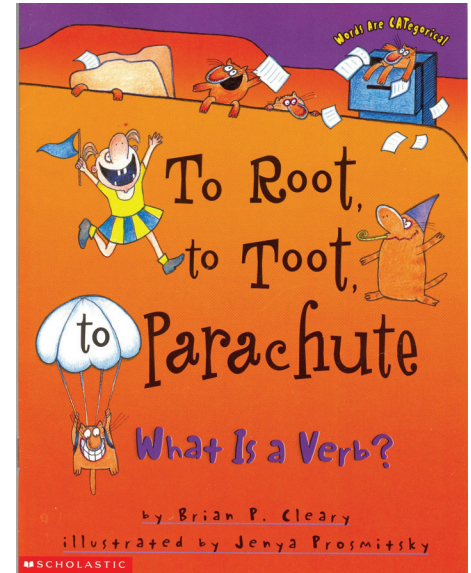
Other Resources:

To Root, To Toot, To Parachute by Brian P. Cleary (Author), Jenya Prosmitsky (Illustrator)

WCLS Call #: J 428.2 CLE 2001

www.amazon.com/Root-Toot-Parachute-Brian-Cleary

What is a verb? It's easier to show than explain! In this fun and animated introduction to grammar, rhyming verse is used to creatively clarify the concept of verbs. Chock-full of colorful, lively examples, the playful rhymes and illustrations of comical cartoon cats combine to highlight key words in the sentences. Verbs like toss and tumble, jump and jam, jog and juggle, jig and leap are printed in color for easy identification.



Next Generation Science Standards:

K-2-ETS1-3 -- Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.